

Amendments to the Drawings:

The replacement drawing sheet attached in connection with the above-identified application containing Fig. 9 is being presented as new formal drawing sheet to be substituted for the previously submitted drawing sheet. Fig. 9 been amended as described in greater detail below. Appended to this amendment is an annotated drawing sheet of the previously submitted drawing sheet which has been marked to show the changes presented in the replacement drawing sheet.

Fig. 9 has been amended to correctly label the steps in the flowchart. In particular, steps S4, S5 and S6 have been correctly labeled as steps ST4, ST5 and ST6 to correspond to the language used in the specification. Support for these amendments can at least be found on page 24, lines 16, 23 and 24 and page 25, lines 6 and 7 of the present specification.

Attachments: Replacement Drawing Sheet

Annotated Drawing Sheet Showing Changes

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

As a preliminary matter, Applicants note the Office Action's consideration of the Information Disclosure Statements submitted on September 28, 2004 and March 22, 2004.

The drawings and claims 2-7 stand objected to for minor informalities. The title stands objected to for not being descriptive. Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,374,947 to Takahashi et al. (hereinafter "Takahashi") in view of U.S. Patent No. 5,353,122 to Kim. Claims 5-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takahashi in view of U.S. Patent No. 6,549,265 to Sakakibara et al. (hereinafter "Sakakibara").

By this amendment, the title of the application has been amended to more clearly indicate the invention to which the claims are directed. Applicants therefore respectfully request withdrawal of the objection to the title. Fig. 9 has been amended to address the concerns pointed out by the Examiner on pages 2 and 3 of the outstanding Office Action. No new matter has been added. Withdrawal of the objections to the drawings is respectfully requested.

Claims 2-4 have been canceled without prejudice to or disclaimer of the subject matter contained therein. Claim 1 has been amended to further define the subject matter Applicants regard as the invention. Support for the amendments to claim 1 can at least be found in canceled claim 4 and page 24, lines 1-6 of the present specification. Claim 5-7 have been amended to correct the minor informalities as noted on page 3 of the outstanding Office Action. New claims 8-11 have been added.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Thus, claims 1 and 5-11 are presently pending in this application for consideration.

Applicants respectfully submit that the claims are patentably distinguishable over the cited references as required by § 103. Applicants further submit that the cited references, whether considered alone or in any combination, fail to disclose Applicants' claimed image forming apparatus including a light emission means for emitting a light beam, first and second light emission control means, an image forming means for forming an image and a bias current control means for controlling the light emission timing of the light emission means. As amended, claim 1 now includes the arrangement of ***the first bias current off timing and the first auto power on timing being coincident with each other and the second bias current off timing and the second auto power on timing being coincident with each other***. In addition, when a first or second process is selected with respect to either the bias current control means or the first light emission control means, the emission of the laser beam is controlled by ***counting the image clock corresponding to the reference clock***. New independent claim 8 recites similar features in the context of an apparatus claim without the recitation of means-plus-function language. By contrast, the cited references do not suggest these claimed features. Accordingly, independent claims 1 and 8 and claims dependent therefrom are patentably distinguishable over the cited references. These distinctions will be further described below.

THE CLAIMS DISTINGUISH OVER THE CITED REFERENCES

Claims 1-4 stand rejected as being unpatentable over the combination of Takahashi and Khovaylo and claims 5-7 stand rejected over the combination of Takahashi and Sakakibara. In response, Applicants respectfully traverse the rejections of these claims and submit that the claims are allowable for at least the following reason.

Applicant relies on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the third criteria of MPEP § 2143 has not been met in the Office Action with respect to the claims.

The Cited References Do Not Suggest All Claimed Recitations

Even if the first requirement of MPEP § 2143 could be satisfied, the cited references still do not meet the third requirement, which is that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.”

One embodiment of the present invention is directed to an image forming apparatus. As recited in independent claim 1, the image forming apparatus includes a light emission means for emitting a light beam, first and second light emission control means, an image forming means for forming an image and a bias current control means for controlling the light emission timing of the light emission means. As amended, claim 1 specifically includes the arrangement of *the first bias current off timing and the first auto power on timing being coincident with each other and the second bias current off timing and the second auto power on timing being coincident with each other*. In addition, when a first or second process is selected with respect to either the bias current control means or the first light emission control means, the emission of the laser beam is controlled by *counting the image clock corresponding to the reference clock*. With these arrangements, the bias current can be efficiently started and stopped to carry out an auto power control operation without wasting power and the starting/stopping of the bias current and the auto power control operation can be controlled by an image clock signal (See, page 24, lines 1-6).

Takahashi relates to a laser printer capable of changing the scanning density and the paper transport speed (Abstract, lines 1 and 2). Fig. 7 illustrates the components related to the scanning operation of the laser printer which include *inter alia*, a laser scanning unit 101, a polygon mirror 102, a laser oscillator 311, a modulator 312, a beam detector 322 and a horizontal synchronizing signal control circuit 323. Fig. 12 describes the control of the output of a horizontal synchronizing signal 331 by the horizontal synchronizing signal control circuit 323. The laser control circuit 315 controls the laser oscillator 311 which works in synchronization with the rotation of the polygon mirror 102 and outputs a laser beam which is detected by laser beam detector 322.

Unlike the present invention, in Takahashi the laser beam detector 322 generates a beam detecting signal each time a laser beam is reflected by the polygon mirror 102. As specifically recited in independent claim 1, the timing of the emission of the laser beam is controlled by counting the image clock, thereby changing the number of times the beam detecting signal is generated. Thus, Takahashi fails to teach or suggest the laser beam is controlled by *counting the image clock corresponding to the reference clock*. In addition, Takahashi also fails to teach or suggest the newly claimed arrangement of *the first bias current off timing and the first auto power on timing being coincident with each other and the second bias current off timing and the second auto power on timing being coincident with each other*.

Kim is directed to a printing control apparatus compatible with printing systems of a laser scanning unit type and a light emitting diode type. At best, Kim discloses a reference clock that generates a predetermined counting period. Kim, however, also fails to teach or suggest the laser beam is controlled by *counting the image clock corresponding to the reference clock*. Moreover, Kim also fails to teach or suggest the newly claimed arrangement of *the first bias current off timing and the first auto power on timing being coincident with each other and the second bias current off timing and the second auto power on timing being coincident with each other*.

In summary, even if the first requirement of MPEP § 2143 is satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action, as none of the cited references remedy the above deficiencies, at least with respect to claim 1 and its dependencies, since the cited references do not teach or suggest each and every element of the invention according to claim 1 or any of the claims that depend from this claim.

Accordingly, Applicants respectfully submit that the invention as claimed in claim 1 is patentable over the art of record and thus, allowable. Moreover, since independent claim 1 is allowable, claims dependent directly or indirectly therefrom, namely claims 5-7 are allowable for the reasons stated above and for containing other patentable features. Further remarks regarding the asserted relationship between any of the claims and the cited references is not

necessary in view of their allowability. Applicants' silence as to the Office Action's comments is not indicative of being in acquiescence to the stated grounds of rejection.

Regarding new independent claim 8, Applicants respectfully submit that new independent claim 8 is similar in scope to independent claim 1. Also, new independent claim 8 recites similar patentable features as independent claim 1 in the context of an apparatus claim without the recitation of means-plus-function language. Accordingly, Applicants submit that new independent claim 8 and new dependent claims 9-11 patentably distinguish over the cited references for the same reasons set forth above.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

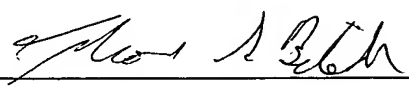

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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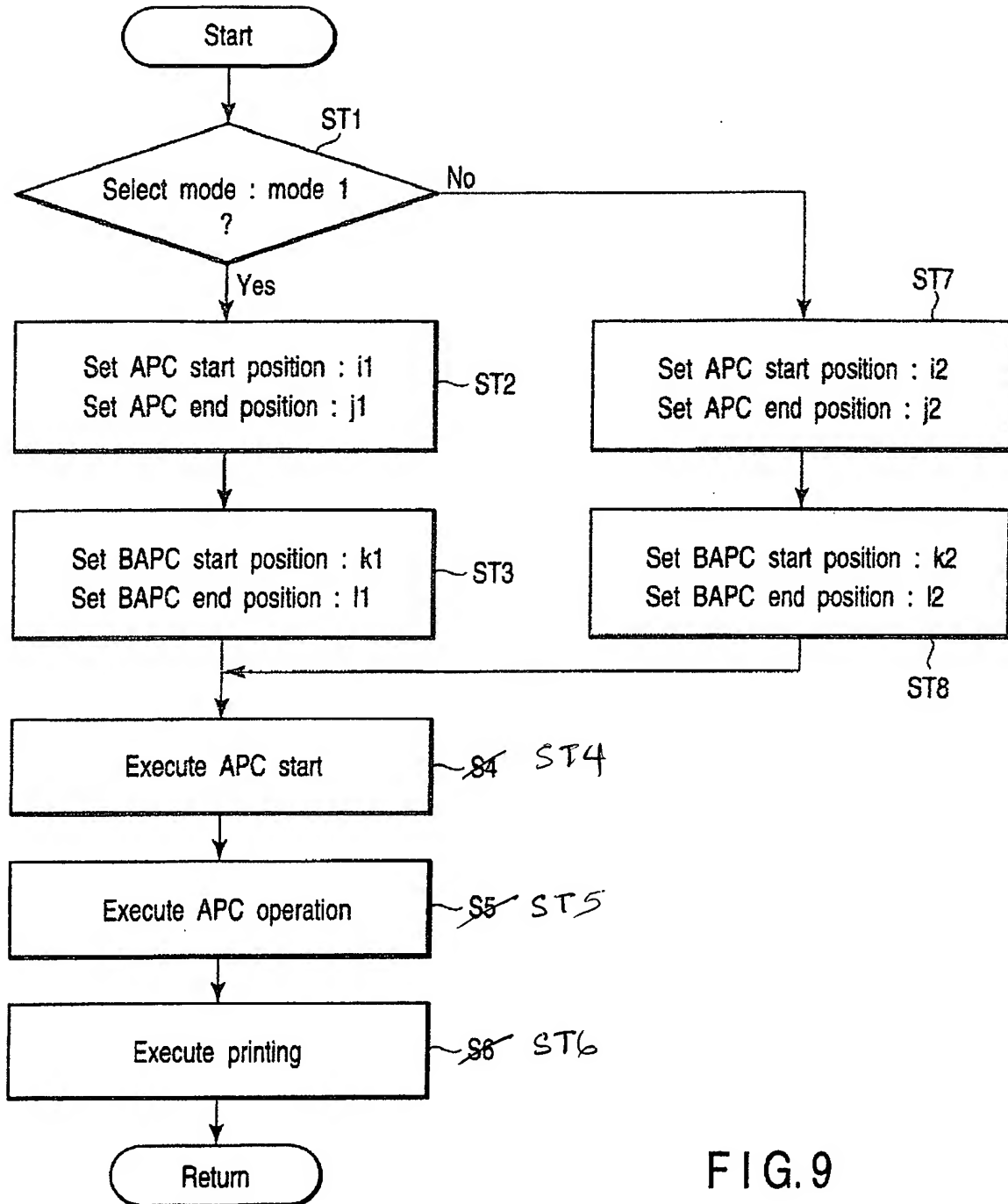


FIG.9